

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte DONALD E. A. CLARKE,  
MICHAEL A. HALE and  
JEREMY B. CHUTER

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Appeal No. 96-3628  
Application 08/050,029<sup>1</sup>

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HEARD: MARCH 5, 1998

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Before KRASS, MARTIN and FLEMING, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 and 3 through 9, all the claims pending in the application. Claim 2 has been canceled.

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<sup>1</sup> Application for patent filed April 29, 1993.

The invention is directed to passive optical networks (PON) wherein data bit communications are transmitted over fiber optic networks. More particularly, the head-end station is connected to a plurality of optical fiber networks. This is accomplished by a time division, multiple access (TDMA) master in the head-end station which is connected to at least two optical stages which are, in turn, connected to separate optical fiber networks. Since a single TDMA master handles a plurality of fiber networks, a larger number of end-user subscribers can be handled.

Representative independent claim 4 is reproduced as follows:

4. A passive optical network system comprising a first passive optical fiber network connected to a time division multiple access (TDMA) master,

a first optical stage connected to the TDMA master and to the optical fiber network,

at least one additional optical stage connected to at least one additional passive optical fiber network, and

wherein the optical stages are connected in common to the TDMA master.

The examiner relies on the following references:

Husbands	4,776,041	Oct. 4, 1988
Ballance	4,977,593	Dec. 11, 1990

Claims 1 and 3 through 9 stand rejected under 35 U.S.C. § 103 as unpatentable over Ballance in view of Husbands. In a new ground of rejection entered in the principal answer, the examiner also rejects claim 3 under 35 U.S.C. § 112, second paragraph, as being indefinite because the claim depends from canceled claim 2.

Reference is made to the briefs and answers for the respective positions of appellants and the examiner.

#### OPINION

At the outset, we note that, in accordance with appellants' grouping of the claims at page 8 of the principal brief, all claims will stand or fall together with regard to the prior art rejection.

We turn first to the rejection of claim 3 under 35 U.S.C. § 112, second paragraph. The examiner rejects the claim as being indefinite because it depends from a now-canceled claim (claim 2). Appellants do not dispute the propriety of the rejection, contending in the reply brief that the improper dependency will be corrected by amendment after the decision on appeal, specifically noting that claim 3 will be amended to depend from claim 1. Accordingly, the rejection of claim 3 under 35 U.S.C. § 112, second paragraph, is summarily sustained and we leave it to appellants and/or the examiner, at a later, appropriate time, to amend claim 3 to make it dependent on claim 1.

We now turn to the rejection of claims 1 and 3 through 9 under 35 U.S.C. § 103.

We will not sustain the rejection of claims 1 and 3 through 9 under 35 U.S.C. § 103 in view of Ballance and Husbands because, in our view, the examiner has not established a prima facie case of obviousness.

The examiner offers Ballance as teaching the claimed invention, with regard to claims 1 and 4 through 7, but for “connecting the output of the TDMA master station connected to respective inputs of the transmitters and output of the receivers connected in parallel to a data input of the TDMA master station” [answer-page 4]. The examiner contends that Ballance does teach connecting the system to various end users and that after reaching a limit to the number of end users that can be connected by using the splitters disclosed by Ballance, in order to increase that number further, one would add optical components, citing various portions of Ballance in columns 8, 10, 14 and 21.

Apparently, the examiner is contending that the provision of additional transmitters and receivers by Ballance, citing column 21, lines 28-32 of that patent, is a teaching of the connection of a single head-end to a plurality of optical fiber networks, as claimed. However, the additional optical components referred to at column 20 of Ballance is in conjunction with an embodiment of Ballance’s invention wherein additional wavelengths are used in order to add new services, such as cable TV. There is no indication or suggestion that additional optical fiber networks are contemplated by Ballance. Both instant independent claims 1 and 4 require more than one optical fiber network and there is no indication anywhere in the disclosure of Ballance that Ballance contemplates

anything more than a single optical fiber network.

The examiner turns to Husbands for a teaching of an optical communication system in which a head-end station (identified as elements RX, TX, 60 and 54 in Figure 4 of Husbands by the examiner) may be connected to an optical stage comprised of a plurality of transmitters and receivers (identified as 62, 46 and 56 by the examiner) for communicating with various devices in the network. The examiner then contends that it would have been obvious to use the teaching of Husbands to connect a plurality of transmitters and receivers to a head-end station in the system of Ballance “in order to increase the number of networks that may be served by the splitters connected to the various end users...” [answer-page 5].

We disagree. While we do not agree with appellants that Husbands is directed to nonanalogous art and should never have been applied, we disagree with the examiner’s rationale for making the combination. In our view, Husbands is clearly analogous since it relates to the same field of endeavor as the instant invention in that they both relate to optical communications systems. As far as applicability of active networks to passive

networks and vice versa, Husbands discloses in the background section that both passive and active networks, as well as hybrids, were known in the art and artisans were familiar with how certain features of each might be combined.

The problem, as we see it, is that Husbands is directed to collision detection in fiber optic systems. Both the prior art described in Figures 1-3 of Husbands and Husbands' Figure 4 inventive embodiment are directed to such collision detection. Thus, to whatever extent Husbands' array of transmitters and receivers may be arranged similar to those in the instant claimed invention, the question arises as to why the artisan would have taken this arrangement and placed it in the system of Ballance. The examiner contends that the artisan would have been led to do this in order to increase the number of networks that may be served, i.e., to increase the number of end users. However, Ballance already discloses a way to increase service to a greater number of end users and that is to employ splitters in order to split signals from a single optical fiber network. Thus, Ballance already discloses a solution to the problem of an increasing number of end users and we find no suggestion which would have led the artisan to do away with the splitters of Ballance and employ, instead, a plurality of optical fiber networks. Certainly, Husbands does not suggest a plurality of optical fiber networks connected to a single head-end for the purpose of serving an increasing number of end users. We simply find no incentive for the skilled artisan to have looked to Husbands for a suggestion to somehow modify Ballance in order to provide a single head-end station connected to a plurality of

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fiber optic networks and the examiner has convinced us of none.

We have sustained the rejection of claim 3 under 35 U.S.C. § 112, second paragraph, but we have not sustained the rejection of claims 1 and 3 through 9 under 35 U.S.C. § 103. Accordingly, the examiner's decision is affirmed-in part.

No period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

ERROL A. KRASS	)	
Administrative Patent Judge	)	
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	)	
JOHN C. MARTIN	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
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INTERFERENCES	)	
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MICHAEL R. FLEMING	)	
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